



UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

TS

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/055,984 04/07/98 KIM

T K-018

WM02/0522
THE LAW OFFICES OF FLESHNER & KIM
PO BOX 221200
CHANTILLY VA 20153-1200

EXAMINER

NGUYEN, T

ART UNIT

PAPER NUMBER

2663

DATE MAILED:

05/22/01

S

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

WAA

Office Action Summary

Application No.
09/055,984

Applicant(s)
Tae Woon KIM

Examiner
Toan Nguyen

Art Unit
2663



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Feb 22, 2001

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-37 is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-11, 13, 16, 17, 21, and 27-36 is/are rejected.

7) ☒ Claim(s) 12, 14, 15, 18-20, 22-26, and 37 is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other:

Application/Control Number: 09/055984

Art Unit: 2663

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which form the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-8, 27-29, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boudreau et al. (U.S. Patent 5,369,681) in view of Jacobsohn (U.S. Patent 5,917,816).

As to claim 1, Boudreau et al disclose a mobile data communication system for a wireless

data communication, comprising:

a plurality of mobile stations M1-M10 (Fig. 1, col. 7 lines 3-5);

a plurality of base stations B1-B10 and base station controllers for transferring a signal transmitted from said mobile stations and signal transmitted to said mobile stations in a predetermined service area (col. 6 lines 43-56);

mobile switching center for detecting a service option included in the signal transmitted from the base stations and base station controllers and for executing a circuit data service or a packet data service according to the detected service option (Fig. 2, col. 7 lines 22-32, and col. 7 lines 53-58); and

Boudreau et al do not disclose at least one mobile data network interworking unit for establishing a traffic channel of a mobile data path and a call between a calling party mobile station and a called party mobile station when said mobile switching center performs the circuit data service. In the analogous art, Jacobsohn discloses at least one mobile data network interworking units CIWF (Fig. 1, col. 2 lines 52-65). One skilled in the art would have recognized such structure of a mobile radio network MRS with a centralized interworking function CIWF and with several mobile switching centers (col. 2 lines 52-54) to use teachings of Jacobsohn in the system of Boudreau et al. It would have been obvious to one of ordinary skill in the art at the time invention, to combine teachings of Jacobsohn's centralized interworking function for a mobile radio network in Boudreau's cellular communications system utilizing paging areas.

As to claim 2, Boudreau et al disclose mobile switching center comprises:

a mobile connection control module for detecting a service option include in the signal transmitted from base station and base station controllers and for generating a switching signal

controlling an interface connection (Fig. 2, col. 7 lines 22-32, and col. 7 lines 53-58);

Jacobsohn in view of Boudreau et al disclose a mobile data path connection control module for controlling the connection to a mobile network data path according to the output signal of said mobile connection control module (Fig. 1, col. 2 line 66 to col. 3 line 4);

a public network data path connection control module for controlling the connection to a public network data path according to the output signal of said mobile data network interworking unit (Fig. 1, col. 3 lines 17-24);

a trunk connection control module for transmitting an output signal of said public network data path connection control module or said mobile network data path connection control module to a public switched telephone network or to a second mobile switching center according to the output signal mobile data path control module or said public network data path connection control module (Fig. 1, col. 2 lines 52-56).

As to claim 3, Jacobsohn discloses wherein said mobile station includes a couple of a data terminal and a mobile terminal which are connected to each other or a separate mobile terminal (col. 3 lines 6-13).

As to claim 4, Jacobsohn discloses data terminal includes one of notebook, personal digital assistant, laptop, palm top, portable or small computer (col. 3 line 8).

As to claim 5, Jacobsohn discloses each of said mobile stations includes a protocol stack for a circuit data and a call processing module for processing a packet data (col. 3 lines 6-13, and col. 33-48).

As to claim 6, Jacobsohn discloses mobile data network interworking unit includes:

a data path GSM connection section for forming a path connection between said mobile

switching center and mobile data network interworking unit (Fig. 1, col. 3 lines 17-19);

a main processing section forming a traffic channel of a mobile data path between a calling party mobile station and a called party mobile station to execute a circuit data communication or a packet data communication according to a received signal from said data path connection section (Fig. 2, col. 3 lines 37-48, and col. 3 lines 52-65);

a circuit data processing section analyzing the signal transmitted from said calling party mobile station if the protocol between the calling party mobile station and the called party mobile station is normally executed when said main processing section performs the circuit data service and then transmitting said called party identification number IAM to said main processing section (Fig. 2, col. 3 line 66 to col. 4 line 1); and

a switching section SWT selectively switching the connection between said circuit data processing section and said data path connection section according to the control signal of said main processing (Fig. 2, col. 3 lines 37-48, and col. 4 lines 14-19).

As to claim 7, Jacobsohn discloses a main processing section includes:

a mobile data path control module for establishing a link with said mobile switching center (col. 3 lines 56-59);

a circuit data control module controlling the exchange of the traffic data information between said mobile station and circuit data processing section (col. 3 lines 59-62);

a public network data path control module for establishing the link with said mobile switching center (col. 4 lines 36-43).

a modem control module controlling the modem equipped in said circuit data processing section (col. 4 lines 9-10).

As to claim 8, Jacobsohn discloses the mobile data communication system wherein said circuit data processing section comprises:

- an interface control section performing an interface between said main processing section and said circuit data processing section (col. 3 lines 62-64);

- at least one modem (col. 3 line 65); and

- a modem controller controlling an operation of the at least one modem according to a modem control signal of said interface control section (col. 3 lines 60-65).

As to claim 27, Boudreau et al disclose a mobile data communication system, comprising:

- a plurality of mobile stations M1-M10 (Fig. 1, col. 7 lines 3-5);

- at least one base station and base station controller, configured to receive and transfer a signal from at least one mobile station and a signal transmitted to the at least one mobile station in a prescribed service area (col. 6 lines 43-56);

- a mobile switching center (MSC) configured to detect a service option included in the signal transmitted from the at least one base station and base station controller and to execute a circuit data service or a packet data service according to the detected service option (Fig. 2, col. 7 lines 22-32, and col. 7 lines 53-58). Boudreau et al do not disclose at least one mobile data network interworking unit coupled to the BSC to establish a traffic channel of a mobile data path and a call between a calling party mobile station and a called party mobile station when said mobile switching center performs the circuit data service. In the analogous art, Jacobsohn discloses at least one mobile data network interworking units CIWF (Fig. 1, col. 2 lines 52-65). One skilled in the art would have recognized such structure of a mobile radio network MRS with a centralized interworking function CIWF and with several mobile switching centers (col. 2 lines

52-54) to use teachings of Jacobsohn in the system of Boudreau et al. It would have been obvious to one of ordinary skill in the art at the time invention, to combine teachings of Jacobsohn's centralized interworking function for a mobile radio network in Boudreau's cellular communications system utilizing paging areas.

As to claim 28, Jacobsohn discloses wherein the at least one mobile data network interworking unit comprises:

- a circuit data processing circuit (Fig. 2, col. 3 line 66 to col. 4 line 1);
- a main processing circuit (Fig. 2, col. 3 lines 37-48, and col. 3 lines 52-65);
- an interface control section, configured to provide an interface between the main processing circuit and the data processing circuit (col. 3 lines 62-64);
- at least one modem (col. 3 line 65); and
- a modem controller configured to control an operation of the at least one modem according to a modem control signal of the interface control section (col. 3 lines 60-65).

As to claim 29, Jacobsohn discloses wherein the at least one mobile data network interworking unit, comprises:

- at least one processor (Fig. 2, col. 3 line 40);
- at least one modem (col. 3 line 65); and
- a modem controller, configured to receive a modem control signal from the at least one processor and control the modem in accordance with the modem control signal (col. 3 lines 60-65).

As to claim 31, Boudreau et al disclose mobile switching center comprises:

- a mobile connection control module for detecting a service option included in the signal

transmitted from base station and base station controller and to generating a switching signal to control an interface connection (Fig. 2, col. 7 lines 22-32, and col. 7 lines 53-58);

Jacobsohn in view of Boudreau et al disclose a mobile data path connection control module, configured to control a connection to a mobile network data path according to the output signal of the mobile connection control module (Fig. 1, col. 2 line 66 to col. 3 line 4);

a public network data path connection control module, configured to control a connection to a public network data path according to the output signal of said mobile data network interworking unit (Fig. 1, col. 3 lines 17-24); and

a trunk connection control module, configured to transmit an output signal of one of the public network data path connection control module and the mobile data path connection control module to one of a public switched telephone network and a second mobile switching center according to the output signal of the mobile data path control module or the public network data path connection control module (Fig. 1, col. 2 lines 52-56).

As to claim 32, Jacobsohn discloses an interworking unit for a wireless communication system, comprising:

a data path GSM connector to couple to a mobile switching center (Fig. 1, col. 3 lines 17-19);

a main processor to form a traffic channel of a mobile data path between a first mobile terminal and a second mobile terminal (Fig. 2, col. 3 lines 37-48, and col. 3 lines 52-65);

a circuit data processor, coupled to the main processor and configured to analyzed a signal transmitted from the first mobile terminal if a protocol between the first mobile terminal and the second mobile terminal is normal executed, and to transmit an identification number from the

second terminal to the main processor (Fig. 2, col. 3 line 66 to col. 4 line 1); and

a switching circuit, configured to selectively switch the connection between the circuit data processor and the data path connector in accordance with a control signal from the main processor comprises at least one modem (Fig. 2, col. 3 lines 37-48, and col. 4 lines 8-19).

As to claim 33, Jacobsohn discloses wherein the main processor comprises:

a mobile data path control module coupled to established a link with the mobile switching center (col. 3 lines 56-59);

a circuit data control module configured to control the exchange of the traffic data information between first mobile station and a circuit data processor (col. 3 lines 59-62);

a modem control module configured to controlling the at least one modem (col. 4 lines 9-10); and

a public network data path control module coupled to establish the link with the mobile switching center (col. 4 lines 36-43).

As to claim 34, Jacobsohn discloses wherein said circuit data processor comprises:

an interface controller to provide an interface between said main processor and the circuit data processor (col. 3 lines 62-64); and

a modem controller coupled to control an operation of the at least one modem according to a modem control signal of said interface control section (col. 3 lines 60-65).

3. Claims 9, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boudreau et al. (U.S. Patent 5,369,681) in view of Jacobsohn (U.S. Patent 5,917,816) further in view of Sauer et al (U.S. Patent 6,049,543).

As to claims 9 and 30, Boudreau et al in view of Jacobsohn do not disclose wherein said

mobile data communication system comprises a CDMA mobile data communication system. In the analogous art, Sauer et al disclose a CDMA mobile data communication system (col. 1 lines 23-27). One skilled in the art would have recognized such CDMA for wireless communications systems (col. 1 lines 24-25) to use teachings of Sauer et al in the system of Boudreau et al. It would have been obvious to one of ordinary skill in the art at the time invention, to combine teachings of Sauer's transcoder for use in an ATM-based communication system in Boudreau's cellular communications system utilizing paging areas.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-11, 13, 16-17, 21, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrader et al (U.S. Patent 5,521,963) in view of Jacobsohn (U.S. Patent 5,917,816).

As to claim 10, Shrader et al disclose the steps of:

inputting an identification number of a called party mobile station (Fig. 2, col. 7 lines 12-13);

establishing a first call from a calling party mobile station to said mobile data network interworking unit and then establishing a first traffic channel (Fig. 2, col. 7 lines 14-29);

calling a called party mobile station at said mobile data network interworking unit (Fig. 2, col. 7 lines 27-29);

establishing a second call from said called party mobile station to said mobile data network interworking unit when a data response comes from said called party mobile station and then establishing a second traffic channel after said mobile data path connection module informs said public network data path connection control module of the normal state of said first data path (Fig. 2, col. 7 lines 30-67);

establishing a call between said mobile switching center and the mobile data network interworking unit through the second data path (Fig. 2, col. 7 lines 36-59); and

connecting said first and second traffic channels through at least one modems (Fig. 1, col. 6 lines 40-42). However, Shrader et al do not disclose a mobile switching center. In the analogous art, Jacobsohn discloses a mobile switching center (Fig. 1, col. 2 lines 56-58). One skilled in the art would have recognized such mobile switching center of a mobile radio network (col. 2 lines 52-53) to use teachings of Jacobsohn in the system of Shrader et al. It would have been obvious to one of ordinary skill in the art at the time invention, to combine teachings of Jacobsohn's centralized interworking function for a mobile radio network in Shrader's system and method for using integrated services digital networks (ISDN) and the call appearance call handling (CACH) feature of electronic key telephone service (EKTS) technology for mobile systems.

As to claim 11, Shrader et al disclose wherein said first data path is a mobile data path and said second data path is a public network data path (Fig. 2, col. 7 lines 17-19, and col. 7 lines 36-42).

As to claim 13, Shrader et al disclose steps for establishing the first call includes the steps of:

deciding the service option included in the signal transmitted from said party mobile station (Fig. 2, col. 7 lines 5-6); and

requesting said data network interworking unit to establish a call when said services option is to request a circuit data communication service (col. 7 lines 19-23).

As to claim 16, Shrader et al disclose wherein said step of calling the called party mobile station comprises:

transmitting a connection request message from the mobile data network interworking unit to said mobile switching center (Fig. 2, col. 7 lines 36-47);

requesting an incoming connection from said mobile station to said called party mobile station (col. 7 lines 17-19, and col. 7 lines 36-38); and

calling a mobile terminal of said called party mobile station (Fig. 2, col. 7 lines 3-5).

As to claim 17, Shrader et al disclose wherein the step of establishing said second call comprises:

detecting the service option included in the signal transmitted from said called party mobile station (Fig. 2, col. 7 lines 36-42); and

requesting the data network interworking unit to establish a call when said detected service option is to request a circuit data communication service (col. 7 lines 36-42).

As to claim 21, Shrader et al. disclose the steps of:

a) inputting an identification number of a called party mobile station (Fig. 2, col. 7 lines 12-13);

b) establishing a first traffic channel after establishing a first call from a calling party mobile station to a first mobile data network interworking unit through a first switching center

(Fig. 2, col. 7 lines 14-29);

c) calling a called party mobile station controlled by a second mobile switching center from said first mobile data network interworking unit through said public network data path connection control module and said trunk connection control module (Fig. 2, col. 7 lines 27-29);

d) establishing a second traffic channel after a second call from said called party mobile station to a second mobile data network interworking unit is established when said called party mobile station is responded and said mobile data path connection module informs said public network data path connection control module of the normal state of said first data path (Fig. 2, col. 7 lines 30-67);

e) establishing a call between said public network data path connection control module and said mobile data network interworking unit after said mobile data path connection control module informs said public network data path connection control module of the completion of channel establishment when said second traffic channel is completely established (Fig. 2, col. 7 lines 36-59);

f) releasing the traffic channel between said mobile connection control module and said public network data path connection control module when the call establishment between the public network data path connection control module and said second mobile data network interworking unit is completed (Fig. 3, col. 8 lines 13-25); and

g) connecting said first and second traffic channels through at least one modems (Fig. 1, col. 6 lines 40-42). However, Shrader et al do not disclose a mobile switching center. In the analogous art, Jacobsohn discloses a mobile switching center (Fig. 1, col. 2 lines 56-58). One skilled in the art would have recognized such mobile switching center of a mobile radio network

(col. 2 lines 52-53) to use teachings of Jacobsohn in the system of Shrader et al. It would have been obvious to one of ordinary skill in the art at the time invention, to combine teachings of Jacobsohn's centralized interworking function for a mobile radio network in Shrader's system and method for using integrated services digital networks (ISDN) and the call appearance call handling (CACH) feature of electronic key telephone service (EKTS) technology for mobile systems.

As to claim 35, Shrader et al disclose the steps of:

inputting an identification number of a first mobile station (Fig. 2, col. 7 lines 12-13);

establishing a first call from a second station to a mobile station to said mobile data network interworking unit and then establishing a first traffic channel (Fig. 2, col. 7 lines 14-29);

calling the first mobile station at the mobile data network interworking unit (Fig. 2, col. 7 lines 27-29);

establishing a second call from the first party mobile station to the mobile data network interworking unit when a data response comes from the first mobile station and then establishing a second traffic channel after a mobile data path connection module informs a public network data path connection control module of the normal state of the first data path (Fig. 2, col. 7 lines 30-67);

establishing a call between said mobile switching center and the mobile data network interworking unit through the second data path (Fig. 2, col. 7 lines 36-59); and

connecting the first and second traffic channels through at least one modem of the mobile data network interworking unit (Fig. 1, col. 6 lines 40-42). However, Shrader et al do not disclose a mobile switching center. In the analogous art, Jacobsohn discloses a mobile switching center

(Fig. 1, col. 2 lines 56-58). One skilled in the art would have recognized such mobile switching center of a mobile radio network (col. 2 lines 52-53) to use teachings of Jacobsohn in the system of Shrader et al. It would have been obvious to one of ordinary skill in the art at the time invention, to combine teachings of Jacobsohn's centralized interworking function for a mobile radio network in Shrader's system and method for using integrated services digital networks (ISDN) and the call appearance call handling (CACH) feature of electronic key telephone service (EKTS) technology for mobile systems.

As to claim 36, Shrader et al disclose wherein said first data path is a mobile data path and said second data path is a public network data path (Fig. 2, col. 7 lines 17-19, and col. 7 lines 36-42).

Objection To Claims, Allowable Subject Matter

6. Claims 12, 14-15, 18-20, 22-26, and 37 are objected to as being dependent upon a rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

Response To Argument

7. Applicant's argument filed on February 22, 2001 have been fully considered, but are moot in view of the new ground(s) of rejection.

Contact Information

8. Any response to this action should be mailed to:

Assistant Commissioner for Patents
Washington, D.C. 20231

or faxed to:

(703) 308-9051 or (703) 308-9052 (for formal communications intended for entry)
(703) 306-5406 (for informal or draft communications, please label "PROPOSED" or
"DRAFT")

9. Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

10. Any inquiry concerning this communication or early communications should be directed to
Toan Nguyen whose telephone number is (703) 305-0140. He can be reached Monday through
Friday from 7:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Mr. Chau Nguyen, can be reached at (703) 308-5340. The fax phone number for this
Group is (703)-872-9314.

Any inquiry of a general nature or relating to the status of this application should be direct
to the Group receptionist whose telephone number is (703) 305-9600.

TN
T.N.



HUY D. VU
PRIMARY EXAMINER